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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,503	07/28/2003	Yiu Ming Cheung	P/4076-55	5069
2352	7590	12/28/2004	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			COLEMAN, WILLIAM D	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,503	CHEUNG ET AL.	
	Examiner	Art Unit	
	W. David Coleman	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Apr/Oct</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I invention, claims 1-10 in the reply filed on October 20, 2004 is acknowledged.
2. Applicant's election with traverse of Group I invention, claims 1-10 in the reply filed on October 20, 2004 is acknowledged. The traversal is on the ground(s) that groups I and II are related as Apparatus and Process and not Process of Making and Product Made. This is not found persuasive because Applicants are requesting that the examiner provide reasonable examples. The Examiner acknowledges that the two groups are an Apparatus and a Process of Making. A reasonable example is provided in which the prior art discloses an apparatus that is operable to detach a die via blowing. Japanese Abstract Publication 2001-094298 clearly discloses a blowing component 17 which is part of the detachment process and therefore prior art exist pertaining to a blowing component for an electronic parts mounter.
3. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

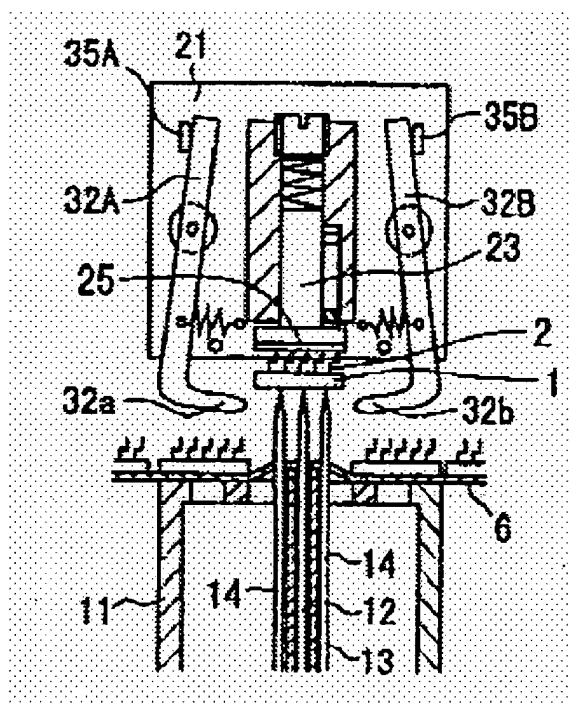
5. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

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do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Mimata et al., U.S. Patent 6,505,397 B1.

7. Mimata discloses an apparatus as claimed. Please see **FIGS. 1(a)-6**, where Mimata teaches the claimed invention.



8. Pertaining to claim 1, Mimata teaches an apparatus for thin die detachment comprising: a film 6 having an adhesive (paste, not numbered) surface on which a plurality of dice 1 are mountable;

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a collet **23** for holding and detaching a die mounted on the adhesive surface; and
an ejector device comprising a plurality of ejector pins **12, 14**, each ejector pin operative to contact and raise a second surface of the film opposite the adhesive surface at a position substantially at a corner of the die(i.e., perimeter, column 3, line 37) to be detached within a predetermined distance from the edges of said die, whereby to partially delaminate said die from the adhesive surface for detachment by the collet.

9. Pertaining to claim 2, Mimata teaches an apparatus as claimed in claim 1, wherein the predetermined distance is determinable by considering one or more factors in the group consisting of the thickness, size and elastic modulus of the die, the thickness and elastic modulus of the film, the interfacial adhesive strength between the die and the elastic surface of the film and the shape and size of the ejector pin (the Examiner takes the position that since not all dice are the same size and the pins 14 are aligned along the perimeter these factors claimed are considered).

10. Pertaining to claim 6, Mimata teaches an apparatus as claimed in claim 1, including a vacuum ejector platform for supporting a portion of the film on which the die to be detached is mounted while the film is contacted by the ejector device.

11. Pertaining to claim 7, Mimata teaches an apparatus as claimed in claim 6, including apertures corresponding substantially to positions of each corner of the die to be detached, wherein the ejector pins are houseable within the vacuum ejector platform and projectable through said apertures for contacting the die.

12. Pertaining to claim 8, Mimata teaches an apparatus as claimed in claim 1, wherein the ejector device comprises at least four ejector pins, each ejector pin corresponding to a position

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substantially at a corner of the die.

13. Pertaining to claim 9, Mimata teaches an apparatus as claimed in claim 8, including one or more ejector pins corresponding to a position substantially at a center portion of the die.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 3, 4, 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mimata et al., 6,505,397 B1.

16. Given the teaching of the references, it would have been obvious to determine the optimum thickness, temperature as well as condition of delivery of the layers involved. See *In re Aller, Lacey and Hall* (10 USPQ 233-237) "It is not inventive to discover optimum or workable ranges by routine experimentation. Note that the specification contains no disclosure of either the critical nature of the claimed ranges or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. *In re Woodruff*, 919 f.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Any differences in the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)

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Appellants have the burden of explaining the data in any declaration they proffer as evidence of non-obviousness. *Ex parte Ishizaka*, 24 USPQ2d 1621, 1624 (Bd. Pat. App. & Inter. 1992).

An Affidavit or declaration under 37 CFR 1.132 must compare the claimed subject matter with the closest prior art to be effective to rebut a prima facie case of obviousness. *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979).

Conclusion

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 571-272-1856.

The examiner can normally be reached on 9:00 AM-5:00 PM.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W. David Coleman
Primary Examiner
Art Unit 2823

WDC

